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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,166	09/19/2003	Thomas A. Egolf	67,008-079; S-5696	7101

26096 7590 05/04/2004

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BIRMINGHAM, MI 48009

EXAMINER

HOLZEN, STEPHEN A

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/666,166	Applicant(s) EGOLF, THOMAS A.	
	Examiner Stephen A. Holzen	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 6, 7, 9, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Sargent (3,411,738). Sargent discloses a vortex generator having a plurality of vortices generating protuberances defined generally parallel to a longitudinal axis defined by said surface which generate small scale vortices that are at least partially entrained within the primary tip vortex, wherein said surface comprise an aerodynamic surface, wherein said surface comprise a rotating aerodynamic surface, said longitudinal axis is a feathering axis, wherein said plurality of vortices generating protuberances extend from a tip of the surface. (see Figure 4, inherently a plane wing is a rotating aerodynamic surface).

3. Claims 11-14 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sargent. Sargent discloses a method of accelerating diffusion of a primary tip vortex comprising the step of generating small-scale vortices from a distal end of a surface that are at least partially entrained within the primary tip vortex to destabilize a core of said primary tip vortex, locating a plurality of vortices generating protuberances on a tip of a rotating member which generates the primary tip vortex, locating a plurality of vortices

Art Unit: 3644

generating protuberances on a tip of a fixed member which generates the primary tip vortex, wherein said distal end is located upon a tip defined between an upper and lower aerodynamic surface, wherein said plurality of vortices generating protuberances are located upon a distal end of a surface.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 8, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sargent in view of Perry. Perry teaches that it is known to alter the standard configurations of a helicopter blade to alter vortex distributions. It would have been obvious to use the protuberances of Sargent on the tip of the blades disclosed by Perry to further reduce the trailing vortex.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sargent in view of Corjon et al. Corjon et al teach that it is well known in the art to use retractable elements as perturbation means. It would have been obvious at the time of the invention to one having ordinary skill in the art to include the teachings of Corjon et al into the device of Sargent for the purpose of selectively deploying the perturbation

Art Unit: 3644

means only when necessary and having the perturbation means retracted to avoid an increase in drag during cruising.

7. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sargent in view of Perry and further in view of Corjon et al. Sargent in view of Perry discloses the use of protuberances from the tip of a rotor blade (see Perry col. 2, lines 1-10). Sargent in view of Corjon et al disclose selectively extending a vortices generating protuberance from a tip of a rotor blade which generates the primary tip vortex in response to an azimuthally position of the rotor blade. (see Corjon et al Col. 7, line 30)

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

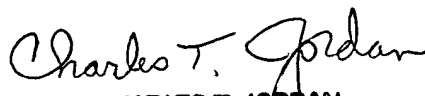
Art Unit: 3644

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 703-308-2484. The examiner can normally be reached on M-F 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles T. Jordan can be reached on 703-306-4159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sah

  
**CHARLES T. JORDAN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3800**